

## ABSTRACT

An auditory prosthesis device for selectively stimulating electrodes within an auditory prosthesis electrode array, comprising a transducer (2) for converting a  
5 complex acoustic sound into an electrical signal; signal processing means (13) responsive to an electrical signal and generating a temporal pattern of stimulation pulses to selected electrodes within the electrode array, the stimulation pulses being applied to each electrode at an electrode stimulation rate; feature extraction means  
10 (14) for deriving an estimate of at least one fundamental frequency of the electrical signal; and stimulation pulse adjustment means (15) for adjusting the stimulation pulses in accordance with the estimated fundamental frequency.